March 1, 2013

VIA ELECTRONIC MAIL

Ms. Katharine K. Buckner
Sandhills and Pulp & Paper Permitting Section
Engineering Services Division
Bureau of Air Quality
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Resolute FP US Inc.
Part 70 Operating Permit TV-2440-0005
Permit Renewal Application
Supplemental Emission Calculations

Dear Ms. Buckner:

On behalf of Resolute FP US Inc., please find the attached supplemental emission calculations that you requested by electronic mail on February 20, 2013.

The attached supplemental emission calculations are for the woodyard at the Catawba Mill. Please include this submittal part of Attachment 6 of the 2013 Part 70 operating permit renewal application.

If you have any questions, require further clarification, or need additional information regarding the application or this submittal, please do not hesitate to contact me.

Sincerely,

Steven R. Moore
URS Corporation

Attachment

cc: Mr. Dale Herendeen – Resolute FP US Inc. (via electronic mail)

URS Corporation
128 Millport Circle, Suite 100
Greenville, South Carolina 29607
Tel: 864.609.9111
Fax: 864.609.9069

Woodyard Emission Unit (Equipment ID No. 1300; Exhaust Point No. 1300):

There are currently no published US EPA AP-42 VOC estimating methods for woodyard activities. The following discussion is from NCASI Technical Bulletin No. 700 (October 1995), page ii:

> Factors with the potential to affect the release of volatile organic compounds (VOCs) from wood storage piles were identified from a literature review. The review indicated these factors are wood species, history of logs (tree age, harvest time, harvest location, and storage), age of material, temperatures and air convection within the pile, and ambient temperature and humidity. Wood species, history of logs, the time elapsed from wood harvest to chipping, and length of time in storage all influence the level of potentially volatile organic compounds present in the stored material, which in turn affects releases of these compounds. Within the storage pile, several complex biological, microbiological, chemical, and physical processes occur simultaneously which may affect the ultimate release rate of VOCs from the pile surface. Only one literature reference, by Swedish investigators, describing limited field measurements of VOC releases from wood storage piles was found. Exploratory measurements were made by NCASI on long-term storage piles of Douglas fir chips, and estimates of VOC releases from the surface and during chip retrieval were made from measured VOC concentrations. The estimated emissions were from 1.6 to 3.6 lb C/acre-day from the surface and on the order of 2.4 x 10-4 lb c/Tdw during chip retrieval. A-pinene was the dominant compound released.

It is felt that this estimate is not representative of the woodyard operations at Resolute's Catawba facility. For this reason, no estimate was included on the Title V application forms. However, using the information presented in TB700, the woodyard VOC emissions would be as follows:

<u>VOC (as carbon)</u>
Chip Pile VOC = (5 acres) × (3.6 lb C/acre-day) × (365 days/yr) × (1 ton/2000 lb)
= 3.3 tons VOC as carbon per year

Chip Handling VOC = 3,445,000 tons/yr × (2.4E-04 lb C/ton) × (1 ton/2000 lb)
= 0.4 tons VOC as carbon per year

Total VOC (as carbon) = 3.3 tons + 0.4 tons = **3.7 tons VOC (as carbon) per year**

<u>VOC (as VOC)</u>
α-Pinene = $C_{10}H_{16}$
C = 12
H = 1
α-Pinene = [12 × 10] + [1 × 16] = 136

3.7 tons carbon × 136 lb α-pinene/120 lb carbon = **4.2 tons VOC (as VOC) per year**